

# **STANDARDS OF LEARNING INSTRUCTIONAL MATERIALS AND TRAINING PROGRAMS**

**Summary of Products and Projects  
2004-2005**

**Division of Instruction  
Virginia Department of Education  
Richmond, Virginia  
<http://www.pen.k12.va.us/VDOE/Instruction/sol.html>**

**Division of Instruction  
Instructional Projects and Products  
2004-2005  
History and Social Science**

- Title of the Project:** *An Economy at Work: The Production and Consumption of Goods and Services*
- DOE Contact Person:** Betsy Barton, Elementary History and Social Science Specialist  
(804) 225-3454 - [bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** History and social science teachers in grades K-5
- Brief Description:** This teaching module is designed to help elementary classroom teachers, K-5, implement instructional strategies for teaching relevant economics concepts, understand production and consumption in the economy, and learn how economics can be integrated with other core disciplines.
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- Title of Project:** *Primary Knowledge of Economics: Concepts and Principles for the K-3 History and Social Science Standards of Learning*
- DOE Contact Person:** Betsy Barton, Elementary History and Social Science Specialist  
(804) 225-3454 - [bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** History and social science teachers in grades K-3
- Brief Description:** The purpose of this resource is to provide teachers content support for their instruction of the economic standards in kindergarten through grade three. The information is divided by grade level with a *Basic Fact Sheet* that contains essential understandings for that grade's economic standards.
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- Title of the Project:** *Teaching and Learning Virginia K-3 History and Social Science Standards of Learning*
- DOE Contact Person:** Betsy Barton, Elementary History and Social Science Specialist  
(804) 225-3454 - [bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** History and social science teachers in grades K-3
- Brief Description:** The purpose of the K-3 Web site is to enhance teachers' content knowledge and support the development of instructional strategies for teaching the Standards of Learning. It will also serve as a guide for instructional planning through sample lesson plans, instructional links, school connections, literature links, and resources. Additionally, the site will provide resources for teachers and students to locate information on the history, geography, civics, and economics strands in kindergarten through grade three. <http://k3hss.pwnet.org/>
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- Title of the Project:** *Mali: Ancient Crossroads of Africa*
- DOE Contact Person:** Betsy Barton, Elementary History and Social Science Specialist  
(804) 225-3454 - [bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** History and social science teachers in grades K-12
- Brief Description:** This resource is designed for elementary, middle, and secondary teachers as a guide in the instructional planning process for teaching the history, geography, and economics of the early West African empire of Mali. The Mali Web site

includes information, pictures, maps, videos, lesson plans, links, and resources to support the 2001 Virginia History and Social Science Standards of Learning.  
<http://mali.pwnet.org/>

**Title of the Project:** *Virginia Studies: Ready Resources for the Classroom*

**DOE Contact Person:** Betsy Barton, Elementary History and Social Science Specialist  
(804) 225-3454 - [bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** History and social science teachers of Virginia Studies

**Brief Description:** The purpose of the Virginia Studies Web site is to enhance teachers' content knowledge and their use of instructional strategies for teaching the Virginia Studies Standards of Learning. The Virginia Studies Web site is designed for elementary teachers as a guide in the instructional planning process that includes sample lesson plans, maps, pictures, literature connections, and resources designed to support the Virginia Studies Standards of Learning.  
<http://vastudies.pwnet.org/>

**Title of the Project:** *Virginia Pathways: A Web Resource for Virginia History Standards of Learning*

**DOE Contact Person:** Betsy Barton, Elementary History and Social Science Specialist  
(804) 225-3454 - [bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** History and social science teachers of Virginia Studies

**Brief Description:** Virginia Pathways is an educational video series with print and Web materials, produced in association with the Virginia History Production Consortium. Print materials, designed specifically for the classroom educator, accompany each episode. The use of these materials supports the Virginia Studies Standards of Learning. <http://www.vastudies.org/>

**Title of the Project:** *Enhanced Scope and Sequence for History and Social Science*

**DOE Contact Person:** Colleen Bryant, Secondary History and Social Science Specialist  
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Beverly Thurston, Coordinator, History and Social Sciences and International Education  
(804) 225-2893 – [bthursto@pen.k12.va.us](mailto:bthursto@pen.k12.va.us)  
Betsy Barton, Elementary History and Social Science Specialist (804) 225-3454  
[bbarton@mail.vak12ed.edu](mailto:bbarton@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** History and social science teachers in grades K-12

**Brief Description:** This enhanced scope and sequence contains instructional activities and strategies to assist history and social science teachers in implementing the 2001 History and Social Science Standards of Learning.  
<http://www.pen.k12.va.us/VDOE/EnhancedSandS/history-ss.shtml>

**Title of Project:** *WorldNet: Virginia-Teacher Study Seminars*

**DOE Contact Person:** Beverly Thurston, Coordinator, History and Social Sciences and International Education  
(804) 225-2893 – [bthursto@pen.k12.va.us](mailto:bthursto@pen.k12.va.us)

**Intended Grade Level  
or Target Audience:  
Brief Description:**

Teachers of all subjects in grades K-12  
Teachers and administrators participated in study seminars that focused on Virginia's Standards of Learning through on-site lectures and official meetings in countries such as Egypt, Israel, Turkey, and Greece. In addition to site visits, seminar participants attended talks about various topics. The seminar participant experiences were shared with all teachers and students in Virginia through the Internet. Seminar participants provided daily logs of the experiences. These logs, including pictures and personal experiences, built an online instructional resource for teachers and students based on Virginia Standards of Learning. Live chats were scheduled as well as a threaded discussion board. Other resources housed on this permanent Web site included background information, lesson plans, Standards of Learning correlations, and links to additional related sites. An interactive DOE Hour program based on the study seminar material was also broadcast statewide.  
<http://www.pwnet.org/>

**Title of Project:**

*International Space Olympics*

**DOE Contact Person:**

Beverly Thurston, Coordinator, History and Social Sciences and International Education  
(804) 225-2893 – [bthursto@pen.k12.va.us](mailto:bthursto@pen.k12.va.us)

**Intended Grade Level  
or Target Audience:  
Brief Description:**

Students in high school with an interest in mathematics and science  
Virginia high school students participated in the International Space Olympics in Korolev, Russia, the center of the Russian space industry near Moscow. These students participated in the Olympics through oral presentations of their research projects and examinations in selected tests in physics, mathematics, and/or computer science. The competition was judged by leading Russian scientists. Students participating in the Olympics shared their experiences with teachers and students in Virginia through the Internet. Students competing in the Olympics provided daily logs of their experiences. These logs included pictures and journal entries describing the competition and their personal experiences. Other resources housed on the permanent WorldNet: Virginia Web site included background information on the students and their projects and links to additional related sites.  
<http://worldnetva.pwnet.org/russia2003/index.htm>

**Title of Project:**

*Geography Connects*

**DOE Contact Person:**

Beverly Thurston, Coordinator, History and Social Sciences and International Education  
(804) 225-2893 – [bthursto@pen.k12.va.us](mailto:bthursto@pen.k12.va.us)

**Intended Grade Level  
or Target Audience:  
Brief Description:**

Teachers of World History and Geography to 1500 A.D.  
Geography Connects is an interactive online course for Virginia teachers to support the Standards of Learning for teaching World History and Geography to 1500 A.D. The class is offered on the Internet and is supported with a CD-ROM. The goals of the course are to connect the events of world history to their geographical foundations, to connect the vocabulary of historical events and processes, to connect the tools and concepts of geography to analyses of

historical events, and to provide lesson plans, resources, and links for classroom teachers. Teachers will find many ideas, resources, and links that will assist them in the classroom  
<http://geoconnects.pwnet.org/>

<b>Title of Project:</b>	<i>United States History Connects</i>
<b>DOE Contact Person:</b>	Beverly Thurston, Coordinator, History and Social Sciences and International Education (804) 225-2893 – <a href="mailto:bthursto@pen.k12.va.us">bthursto@pen.k12.va.us</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of United States History to 1877, United States History: 1877 to the Present, and Virginia and United States History
<b>Brief Description:</b>	U.S. History Connects is an interactive online course for Virginia teachers to support the Standards of Learning for teaching United States history with particular focus on the Twentieth Century. The class is offered on the Internet and is supported with a CD-ROM. The goals of the course are to provide teachers with content knowledge on Twentieth Century U.S. History and provide connections from the past to facilitate understanding of the present. Teachers will find many ideas, resources, and links that will assist them in the classroom. <a href="http://historyconnects.pwnet.org/">http://historyconnects.pwnet.org/</a>
<b>Title of Project:</b>	<i>Sample Instructional Resources for the 2001 History and Social Science Standards of Learning</i>
<b>DOE Contact Person:</b>	Beverly Thurston, Coordinator, History and Social Sciences and International Education (804) 225-2893 – <a href="mailto:bthursto@pen.k12.va.us">bthursto@pen.k12.va.us</a> Colleen Bryant, Secondary History and Social Science Specialist (804) 786-4640 - <a href="mailto:cbryant@mail.vak12ed.edu">cbryant@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	History and social science teachers in grades K-12
<b>Brief Description:</b>	This set of thirteen lesson samplers contains instructional activities and strategies to assist history and social science teachers in implementing the 2001 History and Social Science Standards of Learning. It is accessible on the Internet under "History and Social Science Resources" at <a href="http://www.pen.k12.va.us/VDOE/Instruction/sol.html">http://www.pen.k12.va.us/VDOE/Instruction/sol.html</a> .

**Division of Instruction  
Instructional Projects and Products  
2004-2005**

**English and Language Arts**

- Title of Project:** *PALS PreK, Kindergarten-Grade 3*
- DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** PreK, Kindergarten - Grade 3
- Brief Description:** PALS is a Phonological Awareness Literacy Screening instrument for preschool, kindergarten and grades one through three. The PALS Web site, <http://pals.virginia.edu> now offers many reports for teachers and administrators as well as grade level lesson plans for teaching specific skills.
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- Title of Project:** *Virginia Reads – Parent Brochure*
- DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** Kindergarten – Grade 5
- Brief Description:** This parent brochure provides specific reading tips for parents to use at home as well as brief statements about English expectations at each grade level (K-5).  
<http://www.pen.k12.va.us/VDOE/Instruction/Reading/reading.html>
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- Title of Project:** *Reading Program Planning Guide (K-5)*
- DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** Kindergarten – Grade 5
- Brief Description:** This document will enable school personnel to evaluate their schools reading program (e.g., goals, assessments, materials, time).  
<http://www.pen.k12.va.us/VDOE/Instruction/Reading/reading.html>
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- Title of Project:** *Reading Staff Development Planning Guide (K-5)*
- DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** Kindergarten – Grade 5
- Brief Description:** This document offers an overview of the components of reading instruction supported by scientific research and a guide to the content that should be emphasized in an effective professional development program.  
<http://www.pen.k12.va.us/VDOE/Instruction/Reading/reading.html>

**Title of Project:** *DOE Hour “Speaking of Education – Focus on Reading”*

**DOE Contact Person:** Linda Poorbaugh, Director, Elementary Instructional Services  
(804) 786-3925 – [lpoorbau@mail.vak12ed.edu](mailto:lpoorbau@mail.vak12ed.edu)  
Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Kindergarten – Adult Education

**Brief Description:** This program features Dr. Jo Lynne DeMary and Jim Calleran in a discussion about reading in Virginia. The office of elementary school instructional services provided footage of exceptional teaching strategies in the primary grades, an interview with Dr. Carmelia Williams, Past President of the International Reading Association, and footage of a family involvement reading workshop in an elementary school.

  

**Title of Project:** *DOE Hour “The National Reading Panel Findings On...Teaching Children to Read”*

**DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Kindergarten – Grade 5

**Brief Description:** This program highlights the findings of the National Reading Panel, which reviewed the latest research on the most effective approaches of teaching children to read and offers additional reading tips by Kathy Farwell, Assistant Principal, Bon Air Elementary School, Chesterfield County Public Schools.

  

**Title of Project:** *DOE Hour “Kindergarten Reading Intervention Strategies”*

**DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Kindergarten – Grade 1

**Brief Description:** This program highlights the efforts of two elementary schools to provide phonemic awareness activities to kindergarten students; provides intervention models and activities for children who did not meet the PALS-K fall benchmark.

  

**Title of Project:** *DOE Hour “Increasing Student Performance Through Family Involvement”*

**DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Kindergarten – Grade 5

**Brief Description:** This program presents many family involvement activities that will increase literacy skills; includes an interview with the principal, motivational reading and study skill ideas and tips on ways to increase family involvement.

**Title of Project:** *DOE Hour “PALS 1-3 Instructional Strategies”*

**DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers in grades 1-3

**Brief Description:** This program highlights the best instructional practices for grades one through three in five areas of reading instruction: phonological awareness, phonics, fluency, vocabulary, and comprehension. This video will assist teachers as they develop a sound plan of instruction for students who do not meet the benchmarks on PALS 1-3.

**Title of Project:** *DOE Hour “Fluency and its Relationship to Reading”*

**DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers in grades K-3

**Brief Description:** This program highlights a lecture by Dr. Elfrieda Hiebert on fluency, one of the five components of reading instruction. The information gained during this lecture will assist educators in teaching fluency and understanding its impact on reading achievement.

**Title of Project:** *Put Reading First Instructional Strategies Videotapes*

**DOE Contact Person:** Barbara F. Jones, Reading/English, K-5 Specialist  
(804) 786-1997 – [bjones@mail.vak12ed.edu](mailto:bjones@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers in grades K-3

**Brief Description:** These videotapes on phonemic awareness, phonics, fluency, vocabulary, and comprehension illustrate classroom instruction as recommended in the booklet **Put Reading First: The Research Building Blocks for Teaching Children to Read Kindergarten through Grade 3**. The purpose of these videotapes is to enhance elementary school teachers’ content knowledge and use of appropriate instructional strategies for teaching reading in kindergarten through grade three. A set of these videotapes was sent to each school division in May 2004 and may be copied for individual schools.

**Title of Project:** *Wordsalive, Vocabulary Acquisition for Virginia*

**DOE Contact Person:** Catherine Rosenbaum, Middle Reading and Language Arts Specialist  
(804) 225 2665 [crosenba@mail.vak12ed.edu](mailto:crosenba@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers in all content areas in grades 5-9

**Brief Description:** **Wordsalive** combines researched-based strategies into a student-friendly graphic organizer. It is based on the research of Kameenui and Baumann who explain that when learning new words students must move from association with one narrow meaning or context of a word, through comprehension in much broader and deeper ways. The comprehension stage may involve finding generalizations, categories, antonyms, and examples of the new word, and acquiring real and personal understanding of vocabulary. Only after moving through these first two stages, is the vocabulary learner finally able to generate novel and unique responses. Available at [http://www.pen.k12.va.us/VDOE/Instruction/Reading/wordsalive\\_voc\\_acq.html](http://www.pen.k12.va.us/VDOE/Instruction/Reading/wordsalive_voc_acq.html)



- Title of Project:** *Creating Active Readers, Staff Development in Reading Comprehension*
- DOE Contact Person:** Catherine Rosenbaum, Middle Reading and Language Arts Specialist  
(804) 225 2665 [crosenba@mail.vak12ed.edu](mailto:crosenba@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** English teachers in grades 6-9
- Brief Description:** The **Creating Active Readers (CAR)** collection contains thirteen virtual classroom observations and lesson plans focusing on teaching reading comprehension. Teachers are encouraged to use these resources to expand their repertoires of strategies to help students comprehend texts more effectively. Recertification suggestions are included. CAR was distributed to middle schools in September 2003 and the compact disks may be copied locally. <http://www.pen.k12.va.us/VDOE/Instruction/Reading/mreading.html>
- Title of Project:** *Interactive Reading, A Reading Comprehension Training Module*
- DOE Contact Person:** Catherine Rosenbaum, Middle Reading and Language Arts Specialist  
(804) 225 2665 [crosenba@mail.vak12ed.edu](mailto:crosenba@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** Teachers in all content areas in grades 4-8
- Brief Description:** **Interactive Reading** is based on the work of Palinscar and Brown, Richardson and Morgan, and Vacca and Vacca who all advocate that students interact with text and each other prior to reading, during reading, and after reading. Strategies are isolated briefly and only for the purpose of defining and introducing them. These strategies are then merged into an interactive repertoire that includes writing at almost every stage. **Interactive Reading** is a teacher-training module for reading comprehension instruction, which combines researched-based strategies into a framework for teachers and students to use regularly with a variety of texts. Available at <http://www.pen.k12.va.us/VDOE/Instruction/Reading/ir.html>
- Title of Project:** *Effective Strategies for Secondary Reading Using Wish You Well by D. Baldacci*
- DOE Contact Person:** Catherine Rosenbaum, Middle Reading and Language Arts Specialist  
(804) 225 2665 [crosenba@mail.vak12ed.edu](mailto:crosenba@mail.vak12ed.edu)  
Tracy Robertson, Secondary English Specialist  
(804) 371-7584 [troberts@mail.vak12ed.edu](mailto:troberts@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** English teachers in grades 8-12
- Brief Description:** A collection of comprehensive lesson plans designed to infuse reading instruction into the secondary English class is available at <http://www.pen.k12.va.us/VDOE/Instruction/English/wishyouwell.pdf>. The research-based strategies of Kyleen Beers are applied to one novel set in Virginia, and are adaptable to other pieces of literature.

<b>Title of Project:</b>	<i>ePAT: Electronic Practice Assessment Tools</i>
<b>DOE Contact Person:</b>	Catherine Rosenbaum, Middle Reading and Language Arts Specialist (804) 225 2665 <a href="mailto:crosenba@mail.vak12ed.edu">crosenba@mail.vak12ed.edu</a> Tracy Robertson, Secondary English Specialist (804) 371-7584 <a href="mailto:troberts@mail.vak12ed.edu">troberts@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	English teachers in grades 8-12
<b>Brief Description:</b>	ePAT is an online tutorial designed to assist students with preparing for the English Standards of Learning (SOL) assessments. It contains released SOL tests with annotation designed to help students become strategic and successful test takers. Available at <a href="http://etest.ncs.com/Customers/Virginia/pat_home.htm">http://etest.ncs.com/Customers/Virginia/pat_home.htm</a>
<b>Title of Project:</b>	<i>Virginia Online Reading Tutorial (Princeton Review)</i>
<b>DOE Contact Person:</b>	Tracy Robertson, Secondary English Specialist (804) 371-7584 <a href="mailto:troberts@mail.vak12ed.edu">troberts@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	English teachers of current grade 11 and 12 <sup>th</sup> grade students who have not yet passed the end-of-course English: Reading Standards of Learning assessment
<b>Brief Description:</b>	The Virginia Online Reading Tutorial developed with The Princeton Review provides individual results and a plan for Standard of Learning remediation or practice for the end-of-course English: Reading Standards of Learning (SOL) assessment. A Web-based program, it is designed to determine student academic needs through an online assessment and tailor lessons to those needs providing performance results and resources that help teachers differentiate instruction. The tutorial aligns to both state standards and to the blueprint, giving students practice with passages and items matching the format and idiom of the SOL assessment. The Online Reading Tutorial is open to Virginia schools by subscription at no cost. It is available at <a href="http://www.pen.k12.va.us/2plus4in2004/tutoria;.shtml">http://www.pen.k12.va.us/2plus4in2004/tutoria;.shtml</a> .
<b>Title of Project:</b>	<i>Enhanced Scope and Sequence for English</i>
<b>DOE Contact Person:</b>	Barbara F. Jones, Reading/English, K-5 Specialist (804) 786-1997 – <a href="mailto:bjones@mail.vak12ed.edu">bjones@mail.vak12ed.edu</a> Catherine Rosenbaum, Middle Reading and Language Arts Specialist (804) 225 2665 <a href="mailto:crosenba@mail.vak12ed.edu">crosenba@mail.vak12ed.edu</a> Tracy Robertson, Secondary English Specialist (804) 371-7584 <a href="mailto:troberts@mail.vak12ed.edu">troberts@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	English teachers in grades K-12
<b>Brief Description:</b>	The Enhanced Scope and Sequence for English is a collection of lesson plans and strategies for teaching reading, writing, and oral language for the kindergarten through grade 12 Standards of Learning. <a href="http://www.pen.k12.va.us/VDOE/EnhancedSandS/">http://www.pen.k12.va.us/VDOE/EnhancedSandS/</a>

**Division of Instruction  
Instructional Projects and Products  
2004-2005  
Mathematics**

- Title of Project:** *Thinking Rationally About Fractions, Decimals, and Percent Instructional Activities*
- DOE Contact Person:** Deborah Pittman, Ed.D, Elementary Mathematics Specialist  
(804) 786-7986 – [dpittman@mail.vak12ed.edu](mailto:dpittman@mail.vak12ed.edu)  
Lois Williams, Ed.D, Middle Mathematics Specialist  
(804) 786-8078 – [lwillia1@mail.vak12ed.edu](mailto:lwillia1@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** Teachers of Grades 4 – 8 Mathematics
- Brief Description:** The purpose of *Thinking Rationally About Fractions, Decimals, and Percent Instructional Activities* is to assist elementary and middle school teachers in implementing the Virginia Standards of Learning for mathematics by providing additional strategies and approaches to standards instruction in the area of fractions, decimals, percent and proportional thinking. These activities, organized by activity and topic, address one or more standards at each grade level and serve to introduce, reinforce, and enhance student understanding of concepts covered in the local curriculum.  
<http://www.pen.k12.va.us/VDOE/Instruction/Math/>
- Title of Project:** *The Development of Geometric Thought through the van Hiele Levels CD*
- DOE Contact Person:** Deborah Pittman, Ed.D, Elementary Mathematics Specialist  
(804) 786-7986 – [dpittman@mail.vak12ed.edu](mailto:dpittman@mail.vak12ed.edu)  
Lois Williams, Ed.D, Middle Mathematics Specialist  
(804) 786-8078 – [lwillia1@mail.vak12ed.edu](mailto:lwillia1@mail.vak12ed.edu)
- Intended Grade Level or Target Audience:** Teachers of Grades K-5 and Grades 6-8 Mathematics
- Brief Description:** The purpose of the CD titled *The Development of Geometric Thought through the van Hiele Levels*, is to give teachers a user-friendly overview of the elements of the van Hiele levels of geometric thought. The CD may be used independently to enhance a teacher's understanding, or it may be used to support the training described in the Department of Education's staff development training program titled *Geometry for Elementary School Teachers* and *Geometry for Middle School Teachers*. The CD presents an overview of the theory with video clips of students engaged in geometric assessment tasks, and describes the students' level of development of geometric thought based on their response to the task. The assessment tasks used in the video clips are included in the collection of K-8 geometric assessment tasks. For each task, there is a set of anchor papers annotating the level of development of geometric thought as described by the student work on that task.

<b>Title of Project:</b>	<b><i>Mathematics Standards of Learning Enhanced Scope and Sequence</i></b>
<b>DOE Contact Person:</b>	Deborah Kiger Bliss, Mathematics Coordinator (804) 786-6418 – <a href="mailto:dbliss@mail.vak12ed.edu">dbliss@mail.vak12ed.edu</a> Lois Williams, Ed.D, Middle Mathematics Specialist (804) 786-8078 – <a href="mailto:lwillia1@mail.vak12ed.edu">lwillia1@mail.vak12ed.edu</a> Elementary Mathematics Specialist
<b>Intended Grade Level or Target Audience:</b>	Teachers of grades K-12
<b>Brief Description:</b>	These documents are an enhancement of the scope and sequence and contain sample lesson plans for topics addressed in the scope and sequence. It can be accessed at <a href="http://www.pen.k12.va.us/VDOE/EnhancedSandS/">http://www.pen.k12.va.us/VDOE/EnhancedSandS/</a>
<b>Title of Project:</b>	<b><i>MathVIDS</i></b>
<b>DOE Contact Person:</b>	Deborah Pittman, Ed.D, Elementary Mathematics Specialist (804) 786-7986 – <a href="mailto:dpittman@mail.vak12ed.edu">dpittman@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of grades K-5
<b>Brief Description:</b>	MathVIDS is an interactive Web site for teachers, designed to be an ongoing and “individualized” professional development tool to assist teachers to effectively teach mathematics concepts and skills to students who are experiencing difficulty learning mathematics. It can be accessed via the Internet at <a href="http://etv.jmu.edu/mathvids">http://etv.jmu.edu/mathvids</a> with the user name: vateacher, and the password: mathhelp. When teachers use the MathVIDS site, they will have the opportunity to try out the methods described, evaluate their effectiveness, and revisit MathVIDS to refine and further develop their skills in the areas of instructional strategies, mathematics disabilities, teaching plans, and metacognitive strategies.
<b>Title of Project:</b>	<b><i>Algebra Readiness Diagnostic Test (ARDT)</i></b>
<b>DOE Contact Person:</b>	Lois Williams, Ed.D, Middle Mathematics Specialist (804) 786-8078 – <a href="mailto:lwillia1@mail.vak12ed.edu">lwillia1@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Students in Grades 6-9
<b>Brief Description:</b>	The Algebra Readiness Diagnostic Test (ARDT) is a state-provided online diagnostic test that provides feedback on students’ strengths and weaknesses on the Mathematics Standards of Learning for Grade 4 through Grade 8 and Algebra I. The ARDT is a computer adaptive test, which means that each student is delivered a unique diagnostic test based upon individual ability level. The purpose of the ARDT is to provide teachers with specific information concerning student weaknesses that may be addressed by intervention (remediation) services. Because the test is delivered online, once students take the ARDT the division may obtain reports immediately for individual students, whole school, or division level. <a href="http://www.accessardt.com/">http://www.accessardt.com/</a>

**Title of Project:** *Algebra Readiness Initiative Web Site*

**DOE Contact Person:** Lois Williams, Ed.D, Middle Mathematics Specialist  
(804) 786-8078 – [lwillia1@mail.vak12ed.edu](mailto:lwillia1@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers of Grades 6-9

**Brief Description:** This Web site will assist teachers in implementing algebra readiness intervention programs. The site contains a description of the program along with online resources and a frequently asked questions section. The Algebra readiness initiative is intended to assist students who are at-risk of failing the Algebra I end-of-course test. It can be accessed at <http://www.pen.k12.va.us/VDOE/Instruction/Math/ARI>

**Title of Project:** *A Review of Materials for Personal Living and Finances*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers of grades 6-12

**Brief Description:** A committee composed of mathematics, business, and special educators reviewed materials that might be used by school divisions in developing a course to address the Personal Living and Finances objectives and to support the Modified Standard Diploma. The committee recommended materials that were available free of charge to be accumulated by the Department of Education and distributed to all school divisions. A set of materials was distributed to all school divisions on June 1, 2001.

**Title of Project:** *Math Connects: Patterns, Functions, and Algebra*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Mathematics teachers of grades 6-8 and teachers of Algebra I

**Brief Description:** *Math Connects: Patterns, Functions, and Algebra* is a self-paced professional development course for middle and high school teachers emphasizing content in mathematics and concentrating on patterns, functions, and algebra in the sixth-, seventh-, and eighth-grades and Algebra I. The objectives include using patterns to bridge concrete arithmetic ideas with abstract algebra concepts while developing content knowledge in algebra for mathematics teachers working with students in grades six, seven, and eight and Algebra I. The *Math Connects: Patterns, Functions, and Algebra* kit contains fourteen 90-minute videotapes containing the instructional components of the course, and a CD-ROM with the complete course information including assignments, worksheets, and Internet links. It can be used by individual teachers or as part of a division-wide effort to enhance teacher skills in mathematics for improving instruction. *Math Connects: Patterns, Functions, and Algebra* was piloted as a distance learning course for teachers through Virginia Polytechnic Institute and State University and then packaged as a professional development course. The packaged materials have been distributed to all high schools and middle schools in Virginia.

**Title of Project:** *Math Connects: Geometry*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** High school geometry teachers

**Brief Description:** *Math Connects: Geometry* is a professional development course for high school teachers emphasizing content in geometry and the integration of *The Geometer's Sketchpad*™ into the geometry classroom. The *Math Connects: Geometry* professional development kit will be distributed as a set of CD-ROMs which will contain the instructional components of the course in videographic format, as well as the complete course information including assignments, worksheets, and Internet links. *Math Connects: Geometry* will be distributed to all high schools in Virginia in 2004.

**Title of Project:** *Teaching Computer Mathematics Using Graphing Calculators*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** High school mathematics teachers

**Brief Description:** *Teaching Computer Mathematics Using Graphing Calculators* provides teachers of Computer Mathematics a scope and sequence for the course as well as suggested instructional strategies and activities. Sample programs that address the activities are included as are scoring rubrics and templates for program development. <http://www.pen.k12.va.us/VDOE/Instruction/Math/>

**Title of Project:** *Project Graduation Algebra I Materials*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** High school mathematics teachers

**Brief Description:** These instructional modules were developed for school divisions participating in Governor Mark R. Warner's Project Graduation Regional Academy grant program. Available at <http://www.pen.k12.va.us/2plus4in2004/index.shtml>

**Title of Project:** *ePAT—Algebra I and Geometry*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** Teachers of high school mathematics courses

**Brief Description:** ePAT is an online tutorial designed to assist students in preparing for the Algebra I and Geometry end-of-course Standards of Learning (SOL) assessments. Each ePAT contains released SOL tests with annotations to help students become successful on the assessment. Available at [http://etest.ncs.com/Customers/Virginia/pat\\_home.htm](http://etest.ncs.com/Customers/Virginia/pat_home.htm)

**Title of Project:** *Algebra I Online Tutorial*

**DOE Contact Person:** Deborah Kiger Bliss, Mathematics Coordinator  
(804) 786-6418 - [dbliss@mail.vak12ed.edu](mailto:dbliss@mail.vak12ed.edu)

**Intended Grade Level or Target Audience:** High school mathematics teachers

**Brief Description:** The Project Graduation Online Algebra Tutorial delivers instruction in Algebra I tailored to the needs of individual students. After completing a diagnostic pre-test, students are directed to lessons and exercises that address their specific instructional needs. A post-tutorial readiness assessment determines if a student is ready for retesting or whether additional online instruction is indicated. Availability TBA

**Division of Instruction  
Instructional Projects and Products  
2004-2005  
Science**

<b>Title of Project:</b>	<i>Earth in Space Module</i>
<b>DOE Contact Person:</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of grades K-6 Science
<b>Brief Description:</b>	The Science Museum of Virginia has developed a training package of classroom materials for elementary and middle school teachers focusing on the space science and astronomy-related standards in the <i>Virginia Science Standards of Learning</i> . The module provides manipulative activities and background materials to train teachers to teach the major concepts contained at those grade levels, and includes suggestions of appropriate pedagogy and activities for students. The module was pilot tested with teachers at various grade levels and has been posted on the Science Museum Web site. <a href="http://www.smv.org/pubs/EarthInSpaceMenu.htm">http://www.smv.org/pubs/EarthInSpaceMenu.htm</a>
<b>Title of Project:</b>	<i>Lessons from the Bay</i>
<b>DOE Contact Person(s):</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of grades 3-6 Science (with potential interdisciplinary connections)
<b>Brief Description:</b>	This Chesapeake Bay integrated supplementary instructional module is a resource for teachers on integrating the Science SOL and appropriate field experiences in grades 3-6, and to assist teachers in meeting the goal of providing a meaningful Bay or stream outdoor experience for every school student. This document provides teachers with background information about the Bay, steps for planning outdoor activities, lesson plans and a project action guide. The module is available to teachers on a Web site linked to the Department of Education. <a href="http://www.pen.k12.va.us/VDOE/LFB/">http://www.pen.k12.va.us/VDOE/LFB/</a>



<b>Title of Project:</b>	<b><i>Physical Science SOLutions</i></b>
<b>DOE Contact Person(s):</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of grades K-6 Science
<b>Brief Description:</b>	<i>Physical Science SOLutions</i> is a manual that was developed with the Science Museum of Virginia to encourage hands-on science in the classroom. The activities in the manual focus on the physical science strand from Kindergarten through Grade 6. <a href="http://www.smv.org/pubs/PSSolutionsTOC.pdf">http://www.smv.org/pubs/PSSolutionsTOC.pdf</a>
<b>Title of Project:</b>	<b><i>Teaching and Learning the Basic Science Skills</i></b>
<b>DOE Contact Person(s):</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of grades K-6 Science
<b>Brief Description:</b>	<i>Teaching and Learning the Basic Science Skills</i> is a series of six videotaped lessons on two videocassettes. The videotapes, along with a Site Leader’s Guide, have been developed to be a resource to help teachers meet the challenges of teaching science in the elementary school. The lessons on the tapes illustrate how teachers are helping students achieve the Science Standards of Learning.
<b>Title of Project:</b>	<b><i>Earth Science Resource Web Page</i></b>
<b>DOE Contact Person(s):</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Earth science teachers
<b>Brief Description:</b>	The Earth Science Resource Web Page is a continuing project in collaboration with the Virginia Tech Department of Geological Sciences. The Web site was launched three years ago to assist teachers in finding relevant information on Virginia resources. It has been expanded to include astronomy and meteorology. <a href="http://vtso.geol.vt.edu/vesr/">http://vtso.geol.vt.edu/vesr/</a>

**Title of Project:** *Safety in Science Teaching*

**DOE Contact Person(s):** Paula J. Klonowski, Elementary and Middle Science Specialist  
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**Intended Grade Level or Target Audience:** All middle and high school science teachers

**Brief Description:** The *Safety in Science Teaching* manual was distributed to all middle and secondary schools in January 2001. It is designed to assist teachers and administrators in providing a safe environment in science classrooms and laboratories.  
<http://www.pen.k12.va.us/VDOE/Instruction/safetymanual.pdf>

**Title of Project:** *Virginia Geology CD-ROMs*

**DOE Contact Person(s):** Paula J. Klonowski, Elementary and Middle Science Specialist  
(804) 371-0249 - [pklonows@mail.vak12ed.edu](mailto:pklonows@mail.vak12ed.edu)  
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**Intended Grade Level or Target Audience:** Earth Science teachers

**Brief Description:** The fourth and final CD-ROM in the series was pressed in 2003. A packet containing the entire series was sent to all high schools. The fourth and final CD-ROM in the series examines the geology of the westernmost provinces of Virginia: the Valley and Ridge and the Appalachian Plateaus. This CD-ROM includes chapters on the physiography, geology, economic mineral resources, environmental issues, and relationships between geology and human history in the Valley and Ridge and Appalachian Plateaus. The CD-ROM has a supplementary Teacher's Guide complete with lesson plans, student worksheets, and teacher answer sheets, as well as explanations of Virginia Standards of Learning covered in each section. The series was developed by Radford University in collaboration with the Division of Mineral Resources of the Department of Mines, Minerals, and Energy. The Department of Education has been a partner in the development and distribution of the product. To order, call the Virginia Division of Mineral Resources at (434) 951-6340.

**Title of Project:** *Images of Virginia's Geology CD-ROM*

**DOE Contact Person(s):** Paula J. Klonowski, Elementary and Middle Science Specialist  
(804) 371-0249 - [pklonows@mail.vak12ed.edu](mailto:pklonows@mail.vak12ed.edu)  
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**Intended Grade Level or Target Audience:** Earth science teachers

**Brief Description:** The purpose of the Images of Virginia's Geology CD-ROM is to provide Earth Science teachers with locally relevant photographs and diagrams that can serve as instructional aids in the Earth Science classroom. Copies of the Images of Virginia's Geology CD-ROM may be ordered by calling the sales office of the Virginia Division of Mineral Resources at (434) 951-6340.

**Title of Project:** *Watershed Experiences*

<b>DOE Contact Person(s):</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Biology teachers
<b>Brief Description:</b>	This product contains a series of four videotapes of field experiences related to the Chesapeake Bay watershed and correlated to the Biology Standards of Learning. These are videos of actual classes and are conducted by scientists and educators from the Chesapeake Bay Foundation. The videos, with accompanying support materials, were distributed to high schools in spring 2002. Additional copies of Watershed Experiences may be obtained by contacting the Department of Education.
<b>Title of Project:</b>	<i>Science Standards of Learning Sample Scope and Sequence</i>
<b>DOE Contact Person(s):</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of Kindergarten-Physics
<b>Brief Description:</b>	These sample science documents provide guidance on how the essential knowledge, skills, and processes that are identified in the Standards of Learning and the Standards of Learning Teacher Resource Guide may be introduced to students in a logical, sequential, and meaningful manner. <a href="http://www.pen.k12.va.us/VDOE/Instruction/solscope/">http://www.pen.k12.va.us/VDOE/Instruction/solscope/</a>
<b>Title of Project:</b>	<b>OVERspace</b>
<b>DOE Contact Person:</b>	Paula J. Klonowski, Elementary and Middle Science Specialist (804) 371-0249 - <a href="mailto:pklonows@mail.vak12ed.edu">pklonows@mail.vak12ed.edu</a> Eric M. Rhoades, Secondary Science Specialist (804) 225-2676 – <a href="mailto:erhoades@mail.vak12ed.edu">erhoades@mail.vak12ed.edu</a>
<b>Intended Grade Level or Target Audience:</b>	Teachers of grade 4 – Physics
<b>Brief Description:</b>	The Virginia Space Grant Consortium (VSGC) in cooperation with the Virginia Department of Education (VDOE) is offering a professional development program for instructing teachers how to use and interpret satellite imagery, and utilize technologies of GIS and GPS to integrate remotely sensed data in the interdisciplinary learning environment. Workshops are led by a cadre of highly trained and motivated educators, leaving teachers equipped with the necessary skills, lesson plan materials, CD-ROMs and follow-up support to provide professional development workshops for classroom teachers in grades 4 through 12. <a href="http://www.vsgc.odu.edu/Menu3_2_1_1.htm">http://www.vsgc.odu.edu/Menu3_2_1_1.htm</a>